

CHAPTER 16

AN ORDINANCE TO PROVIDE FOR THE CONTROL OF SOIL EROSION AND SEDIMENTATION

Article I

ADMINISTRATION

Sec. 16-1. Title

This ordinance may be cited as the City of Archdale Soil Erosion and Sedimentation Control Ordinance.

Sec. 16-2. Purpose

This ordinance is adopted for the purposes of:

- (a) regulating certain land-disturbing activity to control accelerated erosion and sedimentation in order to prevent the pollution of water and other damage to lakes, watercourses, and other public and private property by sedimentation; and
- (b) establishing procedures through which these purposes can be fulfilled.

Sec. 16-3 Definitions

As used in this ordinance, unless the context clearly indicates otherwise, the following definitions apply:

- (a) Accelerated Erosion - means any increase over the rate of natural erosion as a result of land-disturbing activity.
- (b) Act - means the North Carolina Sedimentation Pollution Control Act of 1973 and all rules and orders adopted pursuant to it.
- (c) Adequate Erosion Control Measure, Structure, or Device - means one which controls the soil material within the land area under responsible control of the person conducting the land-disturbing activity.
- (d) Affiliate – means a person that directly, or indirectly through one or more intermediaries, controls, is controlled by, or is under common control of another person.
- (e) Being Conducted - means a land-disturbing activity has been initiated and permanent stabilization of the site has not been completed.

- (f) Borrow - means fill material which is required for on-site construction and is obtained from other locations.
- (g) Buffer Zone - means the strip of land adjacent to a lake or natural watercourse.
- (h) Coastal Counties - means the following counties: Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Gates, Hertford, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrrell and Washington.
- (i) Commission - means the North Carolina Sedimentation Control Commission.
- (j) Completion of Construction or Development - means that no further land-disturbing activity is required on a phase of a project except that which is necessary for establishing a permanent ground cover.
- (k) Department - means the North Carolina Department of Environment and Natural Resources.
- (l) Director - means the Director of the Division of Land Resources of the Department of Environment and Natural Resources.
- (m) Discharge Point - means that point at which storm water runoff leaves a tract of land.
- (n) District - means City of Archdale and the extraterritorial jurisdiction in addition to any future Soil and Water Conservation Districts which overlap those boundaries created pursuant to Chapter 139, North Carolina General Statutes.
- (o) Energy Dissipator - means a structure or a shaped channel section with mechanical armoring placed at the outlet of pipes or conduits to receive and break down the energy from high velocity flow.
- (p) Erosion - means the wearing away of land surfaces by the action of wind, water, gravity, or any combination thereof.
- (q) Ground Cover - means any natural vegetative growth or other material which renders the soil surface stable against accelerated erosion.
- (r) High Quality Waters - means those classified as such in 15A NCAC 2B.0101(e) (5) - General Procedures, which is incorporated herein by reference to include further amendments pursuant to G.S. 150B-14(c).
- (s) High Quality Water (HQW) Zones –means, for the Coastal Counties, areas within 575 feet of High Quality Waters; and for the remainder of the state, areas within one mile and draining to HQW’s.
- (t) Lake or Natural Watercourse – means any stream, river, brook, swamp, sound, bay,

creek, run, branch, canal, waterway, estuary, and any reservoir, lake or pond, natural or impounded in which sediment may be moved or carried in suspension, and which could be damaged by accumulation of sediment.

- (u) Land-disturbing Activity - means any use of the land by any person in residential, industrial, education, institutional, or commercial development, highway and road construction and maintenance that results in a change in the natural cover or topography and that may cause or contribute to sedimentation.
- (v) Local Government - means any county, incorporated village, town or city, or any combination of counties, incorporated villages, towns, and cities, acting through a joint program pursuant to the provisions of the Act.
- (w) Natural Erosion - means the wearing away of the earth's surface by water, wind, or other natural agents under natural environmental conditions undisturbed by man.
- (x) Parent – means an affiliate that directly, or indirectly through one or more intermediaries, controls another person.
- (y) Person - means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, interstate body, or other legal entity.
- (z) Person Conducting land-Disturbing Activity - means any person who may be held responsible for violation unless expressly provided otherwise by this Ordinance, the Act, or any order adopted pursuant to this Ordinance or the Act.
- (aa) Person Responsible for the Violation - means:
 - (1) the developer or other person who has or holds himself out as having financial or operation control over the land-disturbing activity; or
 - (2) the landowner or person in possession or control of the land that has directly or indirectly allowed the land-disturbing activity, or benefited from it or failed to comply with a duty imposed by any provision of this Ordinance, the Act, or any order adopted pursuant to this Ordinance or the Act.
- (bb) Phase of Grading - means one of two types of grading: rough or fine.
- (cc) Plan - means an erosion and sedimentation control plan
- (dd) Sediment - means solid particulate matter, both mineral and organic, that has been or is being transported by water, air, gravity, or ice from its site of origin.
- (ee) Sedimentation - means the process by which sediment resulting from accelerated erosion has been or is being transported off the sit of the land-disturbing activity or into a lake or

- natural watercourse.
- (ff) Siltation - means sediment resulting from accelerated erosion which is settleable or removable by properly designed, constructed, and maintained control measures; and which has been transported from its point of origin within the site of a land-disturbing activity; and which has been deposited, or is in suspension in water.
 - (gg) Storm Drainage Facilities - means the system of inlets, conduits, channels, ditches and appurtenances which serve to collect and convey storm water through and from a given drainage area.
 - (hh) Storm Water Runoff - means the surface flow of water resulting from precipitation in any form and occurring immediately after rainfall or melting.
 - (ii) Subsidiary – means an affiliate that is directly, or indirectly through one or more intermediaries, controlled by another person.
 - (jj) Ten-Year Storm - means the storm water runoff resulting from precipitation of an intensity expected to be equaled or exceeded, on the average, once in ten years, and of a duration which will produce the maximum peak rate of runoff for the watershed of interest under average antecedent wetness conditions.
 - (kk) Tract - means all contiguous land and bodies of water being disturbed or to be disturbed as a unit, regardless of ownership.
 - (ll) Twenty-five Year Storm - means the storm water runoff resulting from precipitation of an intensity expected to be equaled or exceeded on the average, once in 25 years, and of a duration which will produce the maximum peak rate of runoff for the watershed of interest under average antecedent wetness conditions.
 - (mm) Uncovered - means the removal of ground cover from, on, or above the soil surface.
 - (nn) Undertaken - means the initiating of any activity, or phase of activity, which results or will result in a change in the ground cover or topography of a tract of land.
 - (oo) Velocity - means the average velocity of flow through the cross section of the main channel at the peak flow of the storm of interest. The cross section of the main channel shall be that area defined by the geometry of the channel plus the area of flow below the flood height defined by vertical lines at the main channel banks. Overload flows are not to be included for the purpose of computing velocity of flow.
 - (pp) Waste - means surplus materials resulting from on-site land-disturbing activities and being disposed of at other locations.
 - (qq) Working Days - means days exclusive of Saturday and Sunday during which weather conditions or soil conditions permit land-disturbing activity to be undertaken.

Sec. 16-4. Scope and Exclusions

- (a) Geographical Scope of Regulated Land-Disturbing Activity. This ordinance shall apply to land-disturbing activity within the territorial jurisdiction of the City of Archdale and to the extraterritorial jurisdiction of the City of Archdale as allowed by agreement between local governments, the extent of annexation or other appropriate legal instrument or law.
- (b) Exclusions from Regulated Land-Disturbing Activity. Notwithstanding the general applicability of this ordinance to all land-disturbing activity, this ordinance shall not apply to the following types of land-disturbing activity:
- (1) An activity, including breeding and grazing of livestock, undertaken on agricultural land for the production of plants and animals useful to man, including, but not limited to:
 - i. forage and sod crops, grain and feed crops, tobacco, cotton, and peanuts
 - ii. dairy animals and dairy products
 - iii. poultry and poultry products
 - iv. livestock, including beef cattle, sheep, swine, horses, ponies, mules and goats
 - v. bees and apiary products
 - vi. fur producing animals.
 - (2) An Activity undertaken on forestland for the production and harvesting of timber and timber products and conducted in accordance with best management practices set out in Forest Practice Guidelines Related to Water Quality, as adopted by the Department. If land-disturbing activity undertaken on forestland for the production and harvesting of timber and timber products is not conducted in accordance with Forest Practice Guidelines Related to Water Quality, the provisions of this ordinance shall apply to such activity and any related land-disturbing activity on the tract.
 - (3) An activity for which a permit is required under the Mining Act of 1971, Article 7 of Chapter 74 of the General Statutes.
 - (4) A land-disturbing activity over which the State has exclusive regulatory jurisdiction as provided in G.S. 113A-56(a).
 - (5) An activity which is essential to protect human life during an emergency.
- (c) Plan Approval Requirement for Land-Disturbing Activity. No person shall undertake any land-disturbing activity subject to this ordinance without first obtaining a Plan approval there for from the City of Archdale.
- (d) Protection of Property - Persons conducting land-disturbing activity shall take all reasonable measures to protect all public and private property from damage caused by such activity.

- (e) More Restrictive Rules Shall Apply - Whenever conflicts exists between federal, state, or local laws, ordinance, or rules, the more restrictive provision shall apply.
- (f) Plan Approval Exceptions. Notwithstanding the general requirement to obtain a Plan approval prior to undertaking land-disturbing activity, a Plan approval shall not be required for land-disturbing activity that does not exceed 10,000 square feet in surface area. In determining the area, lands under one or diverse ownership being developed as a unit will be aggregated.

16-5 Mandatory Standards for Land-Disturbing Activity

No land-disturbing activity subject to the control of this ordinance shall be undertaken except in accordance with the following mandatory standards:

(a) Buffer zone

(1) Standard Buffer. No land-disturbing activity during periods of construction or improvement to land shall be permitted in proximity to a lake or natural watercourse unless a buffer zone is provided along the margin of the watercourse of sufficient width to confine visible siltation within the twenty-five percent (25%) of the buffer zone nearest the land-disturbing activity.

i. Projects On, Over or Under Water. This subdivision shall not apply to a land-disturbing activity in connection with the construction of facilities to be located on, over, or under a lake or natural watercourse.

ii. Buffer Measurement. Unless otherwise provided, the width of a buffer zone is measured horizontally from the edge of the water to the nearest edge of the disturbed area, with the 25 percent of the strip nearer the land-disturbing activity containing natural or artificial means of confining visible siltation.

(b) Graded Slopes and Fills. The angle for graded slopes and fills shall be no greater than the angle that can be retained by vegetative cover or other adequate erosion control devices or structures. In any event, slopes left exposed will, within 21 calendar days of completion of any phase of grading, be planted or otherwise provided with temporary or permanent ground cover, devices, or structures sufficient to restrain erosion. The angle for graded slopes and fills must be demonstrated to be stable. Stable is the condition where the soil remains in its original configuration, with or without mechanical constraints.

(c) Fill Material. Unless a permit from the Department's Division of Waste Management to operate a landfill is on file for the official site, acceptable fill material shall be free of organic or other degradable materials, masonry, concrete and brick in sizes exceeding twelve (12) inches, and any materials which would cause the site to be regulated as a landfill by the State of North Carolina.

(d) Ground Cover. Whenever land-disturbing activity that will disturb more than 10,000

square feet is undertaken on a tract, the person conducting the land-disturbing activity shall install erosion and sedimentation control devices and practices that are sufficient to retain the sediment generated by the land disturbing activity within the boundaries of the tract during construction upon and development of said tract, and shall plant or otherwise provide a permanent ground cover sufficient to restrain erosion after completion of construction or development. Except as provided in 16-8(b)(5) of this ordinance, provisions for a ground cover sufficient to restrain erosion must be accomplished within 15 working days or 90 calendar days following completion of construction or development, whichever period is shorter.

- (e) Prior Plan Approval. No person shall initiate any land-disturbing activity that will disturb more than 10,000 square feet on a tract unless, thirty (30) or more days prior to initiating the activity; a Plan for the activity is filed with and approved by the City of Archdale. An erosion and sedimentation control plan may be filed less than 30 days prior to initiation of a land-disturbing activity if the plan is submitted under an approved express permit program, and the land-disturbing activity may be initiated and conducted in accordance with the plan once the plan has been approved. The City of Archdale shall forward to the Director of the Division of Water Quality a copy of each Plan for a land-disturbing activity that involves the utilization of ditches for the purpose of de-watering or lowering the water table of the tract.
- (f) The land-disturbing activity shall be conducted in accordance with the approved erosion and sedimentation control plan.

Sec. 16-6. Erosion and Sedimentation Control Plans

- (a) Plan Submission. A Plan shall be prepared for all land-disturbing activities subject to this ordinance whenever the proposed activity will disturb more than 10,000 square feet on a tract. Three (3) copies of the Plan shall be filed with the City of Archdale, a copy shall be simultaneously submitted to any Soil and Water Conservation District at least 30 days prior to the commencement of the proposed activity.
- (b) Financial Responsibility and Ownership. Plans may be disapproved unless accompanied by an authorized statement of financial responsibility and ownership. This statement shall be signed by the person financially responsible for the land-disturbing activity or his attorney in fact. The statement shall include the mailing and street addresses of the principal place of business of (1) the person financially responsible, (2) the owner of the land, and (3) any registered agents. If the person financially responsible is not a resident of North Carolina, a North Carolina agent must be designated in the statement for the purpose of receiving notice of compliance or non-compliance with the Plan, the Act, this ordinance, or rules or orders adopted or issued pursuant to this ordinance. If the applicant is not the owner of the land to be disturbed, the draft erosion and sedimentation control plan must include the owner's written consent for the applicant to submit a draft erosion and sedimentation control plan and to conduct the anticipated land-disturbing activity.
- (c) Environmental Policy Act Document. Any Plan submitted for a land-disturbing activity

for which an environmental document is required by the North Carolina Environment Policy Act (G.S. 113A-1, et seq.) shall be deemed incomplete until a complete environmental document is available for review. The City of Archdale shall promptly notify the person submitting the Plan that the 30-day time limit for review of the Plan pursuant to this ordinance shall not begin until a complete environmental document is available for review.

- (d) Content. The Plan required by this section shall contain architectural and engineering drawings, maps, assumptions, calculations, and narrative statements as needed to adequately described the proposed development of the tract and the measures planned to comply with the requirements of this ordinance. Plan content may vary to meet the needs of specific site requirements. Detailed guidelines for Plan preparation may be obtained from the City of Archdale on request.
- (e) Soil and Water Conservation District Comments. The District shall review the Plan and submit any comments and recommendations to the City of Archdale within 20 days after the District received the Plan, or within any shorter period of time as may be agreed upon by the District and the City of Archdale. Failure of the District to submit its comments and recommendations within 20 days or within any agreed-upon shorter period of time shall not delay final action on the Plan.
- (f) Timeline for Decisions on Plans. The City of Archdale will review each complete Plan submitted to them and within 30 days of receipt thereof will notify the person submitting the Plan that it has been approved, approved with modifications, approved with performance reservations, or disapproved. Failure to approve, approve with modifications, or disapprove a complete Plan within 30 days of receipt shall be deemed approval. The City of Archdale will review each revised Plan submitted to them and within 15 days of receipt thereof will notify the person submitting the Plan that it has been approved, approved with modifications, approved with performance reservations, or disapproved. Failure to approve, approve with modifications, or disapprove a revised Plan within 15 days of receipt shall be deemed approval.
- (g) Approval. The City of Archdale shall only approve a Plan upon determining that it complies with all applicable State and local regulations for erosion and sedimentation control. Approval assumes the applicant's compliance with the federal and state water quality laws, regulations and rules. The City of Archdale shall condition approval of Plans upon the applicant's compliance with federal and state water quality laws, regulations and rules. The City of Archdale may establish an expiration date, not to exceed three (3) years, for Plans approved under this ordinance.
- (h) Disapproval for Content. The City of Archdale shall disapprove a Plan or draft Plan based on its content. A disapproval based upon a Plan's content must specifically state in writing the reasons for disapproval.
- (i) Other Disapprovals. The City of Archdale may disapprove a Plan or draft Plans if implementation of the Plan would result in a violation of the rules adopted by the

Environmental Management Commission to protect riparian buffers along surface waters. A local government may disapprove a Plan upon finding that an applicant, or a parent, subsidiary, or other affiliate of the applicant:

- (i) Is conducting or has conducted land-disturbing activity without an approved Plan, or has received notice of violation of a Plan previously approved by the Commission or a local government pursuant to the Act and has not complied with the notice within the time specified in the notice;
- (ii) Has failed to pay a civil penalty assessed pursuant to the Act or a local ordinance adopted pursuant to the Act by the time the payment is due.
- (iii) Has been convicted of a misdemeanor pursuant to G. S. 113A-64(b) or any criminal provision of a local ordinance adopted pursuant to the Act or;
- (iv) Has failed to substantially comply with State rules or local ordinances and regulations adopted pursuant to the Act.

For purposes of this subsection, an applicant's record may be considered for only the two years prior to the application date.

In the event that a Plan is disapproved pursuant to this subsection, the City of Archdale shall notify the Director of such disapproval within ten (10) days. The City of Archdale shall advise the applicant and the Director in writing as to the specific reasons that the Plan was disapproved.

- (j) Notice of Activity Initiation. No person may initiate a land-disturbing activity before notifying the agency that issued the Plan approval of the date that land-disturbing activity will begin.
- (k) Preconstruction Conference. When deemed necessary by the approving authority a preconstruction conference may be required.
- (l) Display of Plan Approval. A Plan approval issued under this article shall be prominently displayed until all construction is complete, all permanent sedimentation and erosion control measures are installed and the site has been stabilized. A copy of the approved plan shall be kept on file at the job site.
- (m) Required Revisions. After approving a Plan, if the City of Archdale either upon review of such Plan or on inspection of the job site, determines that a significant risk of accelerated erosion or off-site sedimentation exists, the City of Archdale shall require a revised Plan. Pending the preparation of the revised Plan, work shall cease or shall continue under conditions outlined by the appropriate authority. If following commencement of a land-disturbing activity pursuant to an approved Plan, the City of Archdale determines that the Plan is inadequate to meet the requirements of this ordinance, the City of Archdale may require any revision of the Plan that is necessary to

comply with this ordinance.

- (n) Amendment to a Plan. Applications for amendment of a Plan in written and/or graphic form may be made at any time under the same conditions as the original application. Until such time as said amendment is approved by the City of Archdale, the land-disturbing activity shall not proceed except in accordance with the Plan as originally approved.
- (o) Failure to File a Plan. Any person engaged in land-disturbing activity who fails to file a Plan in accordance with this ordinance, or who conducts a land-disturbing activity except in accordance with provisions of an approved Plan shall be deemed in violation of this ordinance.
- (p) The landowner, the financially responsible party, or the landowner's or the financially responsible party's agent shall perform an inspection of the area covered by the plan after each phase of the plan has been completed and after establishment of temporary ground cover in accordance with G.S. 113A-57(2). The person who performs the inspection shall maintain and make available a record of the inspection at the site of the land-disturbing activity. The record shall set out any significant deviation from the approved erosion control plan, identify any measures that may be required to correct the deviation, and document the completion of those measures. The record shall be maintained until permanent ground cover has been established as required by the approved erosion and sedimentation control plan. The inspections required by this subsection shall be in addition to inspections required by G.S. 113A-61.1.
- (q) When deemed necessary by the approving authority, a Surety Bond or Letter of Credit to cover cost of stabilizing the site may be required.

Sec. 16-7. Basic Control Objectives

An erosion and sedimentation control Plan may be disapproved if the Plan fails to address the following control objectives:

- (a) Identify Critical Areas - On-site areas which are subject to severe erosion, and off-site areas which are especially vulnerable to damage from erosion and/or sedimentation, are to be identified and receive special attention.
- (b) Limit Time of Exposure - All land-disturbing activities are to be planned and conducted to limit exposure to the shortest feasible time.
- (c) Limit Exposed Areas - All land-disturbing activity is to be planned and conducted to minimize the size of the area to be exposed at any one time.
- (d) Control Surface Water - Surface water runoff originating upgrade of exposed areas should be controlled to reduce erosion and sediment loss during the period of exposure.

- (e) Control Sedimentation - All land-disturbing activity is to be planned and conducted so as to prevent off-site sedimentation damage.
- (f) Manage Storm Water Runoff - When the increase in the velocity of storm water runoff resulting from a land-disturbing activity is sufficient to cause accelerated erosion of the receiving watercourse, a Plan is to include measures to control the velocity to the point of discharge so as to minimize accelerated erosion of the site and increased sedimentation of the stream.

Sec. 16-8. Design and Performance Standards

- (a) Except as provided in 16-8(b)(2) of this ordinance, erosion and sedimentation control measures, structures, and devices shall be planned, designed, and constructed to provide protection from the calculated maximum peak rate of runoff from the ten-year storm. Runoff rates shall be calculated using the procedures in the USDA, Soil Conservation Service's "National Engineering Field Manual for Conservation Practices", or other acceptable calculation procedures.
- (b) HQW Zones. In High Quality Water (HQW) zones the following design standards shall apply:
 - (1) Limit on Uncovered Area. Uncovered areas in HQW zones shall be limited at any time to a maximum total area of twenty acres within the boundaries of the tract. Only the portion of the land-disturbing activity within a HQW zone shall be governed by this section. Larger areas may be uncovered within the boundaries of the tract with the written approval of the Director.
 - (2) Maximum Peak Rate of Runoff Protection. Erosion and sedimentation control measures, structures, and devices within HQW zones shall be planned, designed and constructed to provide protection from the runoff of the twenty-five year storm which produces the maximum peak rate of runoff as calculated according to procedures in the United States Department of Agriculture Soil Conservation Service's "National Engineering Field Manual for Conservation Practices" or according to procedures adopted by any other agency of this state or the United States or any generally recognized organization or association.
 - (3) Settling Efficiency. Sediment basins within HQW zones shall be designed and constructed such that the basin will have a settling efficiency of at least 70% for the 40 micron (0.04 millimeter) size soil particle transported into the basin by the runoff of that two year storm which produces the maximum peak rate of runoff as calculated according to procedures in the United States Department of Agriculture Soil Conservation Service's "National Engineering Field Manual for Conservation Practices" or according to procedures adopted by any other agency of this state or the United States or any generally recognized organization or association.
 - (4) Grade. Newly constructed open channels in HQW zones shall be designed and

constructed with side slopes no steeper than two horizontal to one vertical if a vegetative cover is used for stabilization unless soil conditions permit a steeper slope or where the slopes are stabilized by using mechanical devices, structural devices or other acceptable ditch liners. In any event, the angle for side slopes shall be sufficient to restrain accelerated erosion.

- (5) Ground Cover. Ground cover sufficient to restrain erosion must be provided for any portion of a land-disturbing activity in a HQW zone within 15 working days or 60 calendar days following completion of construction or development, whichever period is shorter.

Sec. 16-9. Storm Water Outlet Protection

- (a) Intent. Stream banks and channels downstream from any land disturbing activity shall be protected from increased degradation by accelerated erosion caused by increased velocity of runoff from the land disturbing activity.
- (b) Performance standard. Persons shall conduct land-disturbing activity so that the post construction velocity of the 10-year storm runoff in the receiving watercourse to the discharge point does not exceed the greater of:
- (1) the velocity established by the Maximum Permissible Velocities Table set out within this subsection; or
 - (2) the velocity of the ten-year storm runoff in the receiving watercourse prior to development.

If condition (1) or (2) of this Paragraph cannot be met, then the receiving watercourse to and including the discharge point shall be designed and constructed to withstand the expected velocity anywhere the velocity exceeds the “prior to development” velocity by 10%.

Maximum Permissible Velocities Table

The following is a table for maximum permissible velocity for storm water discharges in feet per second (F.P.S.) and meters per second (M.P.S.):

<u>Material</u>	F.P.S.	M.P.S.
Fine sand (noncolloidal)	2.5	.8
Sandy loam (noncolloidal)	2.5	.8
Silt loam (noncolloidal)	3.0	.9
Ordinary firm loam	3.5	1.1
Fine gravel	5.0	1.5
Stiff clay (very colloidal)	5.0	1.5
Graded, loam to cobbles		

(noncolloidal)	5.0	1.5
Graded, silt to cobbles		
(Colloidal)	5.5	1.7
Alluvial silts (noncolloidal)	3.5	1.1
Alluvial silts (colloidal)	5.0	1.5
Coarse gravel (noncolloidal)	6.0	1.8
Cobbles and shingles	5.5	1.7
Shales and hard pans	6.0	1.8

Source - Adapted from recommendations by Special Committee on Irrigation Research, American Society of Civil Engineers, 1926, for channels with straight alignment. For sinuous channels, multiply allowable velocity by 0.95 for slightly sinuous, by 0.9 for moderately sinuous channels, and by 0.8 for highly sinuous channels.

(c) Acceptable Management Measures - Measures applied alone or in combination to satisfy the intent of this section are acceptable if there are no objectionable secondary consequences. The City of Archdale recognizes that the management of storm water runoff to minimize or control downstream channel and bank erosion is a developing technology. Innovative techniques and ideas will be considered and may be used when shown to have the potential to produce successful results. Some alternatives, while not exhaustive, are to:

- (1) Avoid increases in surface runoff volume and velocity by including measures to promote infiltration to compensate for increased runoff from areas rendered impervious;
- (2) Avoid increases in storm water discharge velocities by using vegetated or roughened swales and waterways in place of closed drains and high velocity paved sections;
- (3) Provide energy dissipators at outlets of storm drainage facilities to reduce flow velocities to the point of discharge;
- (4) Protect watercourses subject to accelerated erosion by improving cross sections and/or providing erosion-resistant lining; and
- (5) Upgrade or replace the receiving device structure, or watercourse such that it will receive and conduct the flow to a point where it is no longer subject to degradation from the increased rate of flow or increased velocity.

(d) Exceptions - This rule shall not apply where it can be demonstrated to the City of Archdale that storm water discharge velocities will not create an erosion problem in the receiving watercourse.

Sec. 16-10. Borrow and Waste Areas

When the person conducting the land-disturbing activity is also the person conducting the borrow or waste disposal activity, areas from which borrow is obtained and which are not regulated by the provisions of the Mining Act of 1971, and waste areas for surplus materials other than landfills regulated by the Department's Division of Waste Management shall be considered as part of the land-disturbing activity where the borrow material is being used or from which the waste material originated. When the person conducting the land-disturbing activity is not the person obtaining the borrow and/or disposing of the waste, these areas shall be considered a separate land-disturbing activity.

Sec. 16-11. Access and Haul Roads

Temporary access and haul roads, other than public roads, constructed or used in connection with any land-disturbing activity shall be considered a part of such activity.

Sec. 16-12. Operations in Lakes or Natural Watercourses

Land disturbing activity in connection with construction in, on, over, or under a lake or natural watercourse shall minimize the extent and duration of disruption of the stream channel. Where relocation of a stream forms an essential part of the proposed activity, the relocation shall minimize unnecessary changes in the stream flow characteristics.

Sec. 16-13. Responsibility for Maintenance

During the development of a site, the person conducting the land-disturbing activity shall install and maintain all temporary and permanent erosion and sedimentation control measures as required by the approved plan or any provision of this Ordinance, the Act, or any order adopted pursuant to this ordinance or the Act. After site development, the landowner or person in possession or control of the land shall install and/or maintain all necessary permanent erosion and sediment control measures, except those measures installed within a road or street right-of-way or easement accepted for maintenance by a governmental agency.

Sec. 16-14. Additional Measures

Whenever the City of Archdale determines that significant erosion and sedimentation is occurring as a result of land-disturbing activity, despite application and maintenance of protective practices, the person conducting the land-disturbing activity will be required to and shall take additional protective action.

Sec. 16-15. Existing Uncovered Areas

- (a) All uncovered areas existing on the effective date of this ordinance which resulted from land-disturbing activity, exceed 10,000 square feet, are subject to continued accelerated erosion, and are causing off-site damage from sedimentation, shall be provided with a

ground cover or other protective measures, structures, or devices sufficient to restrain accelerated erosion and control off-site sedimentation.

- (b) The City of Archdale shall serve upon the landowner or other person in possession or control of the land a written notice to comply with the Act, this ordinance, a rule or order adopted or issued pursuant to the Act by the Commission or by the City of Archdale. The notice to comply shall be sent by registered or certified mail, return receipt requested, or other means provided in GS 1A-1, Rule 4. The notice will set forth the measures needed to comply and will state the time within which such measures must be completed. In determining the measures required and the time allowed for compliance, the authority serving notice shall take into consideration the economic feasibility, technology, and quantity of work required, and shall set reasonable and attainable time limits of compliance.
- (c) The City of Archdale reserves the right to require preparation and approval of a Plan in any instance where extensive control measures are required.
- (d) This rule shall not require ground cover on cleared land forming the future basin of a planned reservoir.

Sec. 16-16. Fees

- (a) The City of Archdale may establish a fee schedule for the review and approval of Plans.
- (b) In establishing the fee schedule, the City of Archdale shall consider the administrative and personnel costs incurred for reviewing the Plans and for related compliance activities.

Sec. 16-17. Plan Appeals

- (a) Except as provided in 16-17(b) of this ordinance, the appeal of a disapproval or approval with modifications of a Plan shall be governed by the following provisions:
 - (1) The disapproval or modification of any proposed Plan by the City of Archdale shall entitle the person submitting the Plan to a public hearing if such person submits written demand for a hearing within 15 days after receipt of written notice of disapproval or modifications.
 - (2) A hearing held pursuant to this section shall be conducted by the City of Archdale, within 15 days after the date of the appeal or request for a hearing.
 - (3) The agency conducting the hearings shall make recommendations to the governing body of the City of Archdale within 15 days after the date of the hearing on any Plan.
 - (4) The Governing Body of the City of Archdale will render its final decision on any Plan within 30 days of receipt of the recommendations from the agency conducting the

hearing.

- (5) If the City of Archdale upholds the disapproval or modification of a proposed Plan following the hearing, the person submitting the Plan shall then be entitled to appeal the City of Archdale's decision to the Commission as provided in G.S. 113A-61(c) and 15A NCAC 4B .0118(d)

- (b) In the event that a Plan is disapproved pursuant to 16-6(i) of this ordinance, the applicant may appeal the City of Archdale's disapproval of the Plan directly to the Commission.

Sec. 16-18. Inspections and Investigations

- (a) Inspection. Agents, officials, or other qualified persons authorized by the City of Archdale will periodically inspect land-disturbing activities to ensure compliance with the Act, this ordinance, or rules or orders adopted or issued pursuant to this ordinance, and to determine whether the measures required in the Plan are effective in controlling erosion and sedimentation resulting from land-disturbing activity. Notice of the right to inspect shall be included in the certificate of approval of each Plan.
- (b) Willful Resistance, Delay or Obstruction. No person shall willfully resist, delay, or obstruct an authorized representative, employee, or agent of the City of Archdale while that person is inspecting or attempting to inspect a land-disturbing activity under this section.
- (c) Notice of Violation. If the City of Archdale determines that a person engaged in land-disturbing activity has failed to comply with the Act, this ordinance, or rules, or orders adopted or issued pursuant to this ordinance, a notice of violation shall be served upon that person. The notice may be served by any means authorized under GS 1A-1, Rule 4. The notice shall specify a date by which the person must comply with the Act, or this ordinance, or rules, or orders adopted pursuant to this ordinance, and inform the person of the actions that need to be taken to comply with the Act, this ordinance, or rules or orders adopted pursuant to this ordinance. Any person who fails to comply within the time specified is subject to additional civil and criminal penalties for a continuing violation as provided in G.S. 113A-64 and this ordinance.
- (d) Investigation. The City of Archdale shall have the power to conduct such investigation as it may reasonably deem necessary to carry out its duties as prescribed in this ordinance, and for this purpose to enter at reasonable times upon any property, public or private, for the purpose of investigating and inspecting the sites of any land-disturbing activity.
- (e) Statements and Reports. The City of Archdale shall also have the power to require written statements, or filing of reports under oath, with respect to pertinent questions relating to land-disturbing activity.

Sec. 16-19. Penalties

(a) Civil Penalties

- (1) Civil Penalty for a Violation. Any person who violates any of the provisions of this ordinance, or rule or order adopted or issued pursuant to this ordinance, or who initiates or continues a land-disturbing activity for which a Plan is required except in accordance with the terms, conditions, and provisions of an approved Plan, is subject to a civil penalty. The maximum civil penalty amount that the City of Archdale may assess per violation is five thousand dollars (\$5,000.00). A civil penalty may be assessed from the date of the violation. Each day of a continuing violation shall constitute a separate violation.
- (2) Civil Penalty Assessment Factors. The governing body of the City of Archdale shall determine the amount of the civil penalty based upon the following factors:
 - i. the degree and extent of harm caused by the violation,
 - ii. the cost of rectifying the damage,
 - iii. the amount of money the violator saved by noncompliance,
 - iv. whether the violation was committed willfully, and
 - v. the prior record of the violator in complying or failing to comply with this ordinance.
- (3) Notice of Civil Penalty Assessment. The governing body of the City of Archdale shall provide notice of the civil penalty amount and basis for assessment to the person assessed. The notice of assessment shall be served by any means authorized under G.S. 1A-1, Rule 4, and shall direct the violator to either pay the assessment or contest the assessment, within 30 days after receipt of the notice of assessment, by written demand for a hearing.
- (4) Hearing. A hearing on a civil penalty shall be conducted by the City of Archdale, within 30 days after the date of the written demand for the hearing. The agency conducting the hearing shall make its recommendation to the governing body of the City of Archdale within 15 days after the date of the hearing.
- (5) Final Decision. The governing body shall render its final decision on the civil penalty within 30 days of the receipt of the recommendation from the agency.
- (6) Appeal of Final Decision. Appeal from the final decision of the governing body shall be to the Superior Court of the county where the violation occurred, or the location of the violator's residence or principal place of business.
- (7) Collection. If payment is not received within 30 days after it is due, the City of

Archdale may institute a civil action to recover the amount of the assessment. The civil action may be brought in the Superior Court of the county where the violation occurred, or the violator's residence or principal place of business is located. Such civil actions must be filed within three (3) years of the date the assessment was due. An assessment that is not contested is due when the violator is served with a notice of assessment. An assessment that is contested is due at the conclusion of the administrative and judicial review of the assessment.

(8) Credit of Civil Penalties. Civil penalties collected pursuant to this ordinance shall be credited to the Civil Penalty and Forfeiture Fund.

(b) Criminal Penalties. Any person who knowingly or willfully violates any provision of this ordinance, or rule or order adopted or issued pursuant to this ordinance, or who knowingly or willfully initiates or continues a land-disturbing activity for which a Plan is required except in accordance with the terms, conditions, and provisions of an approved Plan, shall be guilty of a Class 2 misdemeanor which may included a fine not to exceed \$5,000 as provided in G.S. § 113A-64.

Sec. 16-20. Injunctive Relief

(a) Violation of Local Program. Whenever the governing body has reasonable cause to believe that any person is violating or threatening to violate any ordinance, rule, regulation or order adopted or issued by the City of Archdale, or any term, condition, or provision of an approved Plan, it may, either before or after the institution of any other action or proceeding authorized by this ordinance, institute a civil action in the name of the City of Archdale for injunctive relief to restrain the violation or threatened violation. The action shall be brought in the superior court of the county in which the violation is occurring or is threatened.

(b) Abatement of Violation. Upon determination by a court that an alleged violation is occurring or is threatened, the court shall enter any order or judgment that is necessary to abate the violation, to ensure that restoration is performed, or to prevent the threatened violation. The institution of an action for injunctive relief under this section shall not relieve any party to the proceedings from any civil or criminal penalty prescribed for violations of this ordinance.

Sec. 16-21. Restoration After Non-Compliance

The City of Archdale may require a person who engaged in a land-disturbing activity and failed to retain sediment generated by the activity, as required by G.S. 113A-57 (3), to restore the waters and land affected by the failure so as to minimize the detrimental effects of the resulting pollution by sedimentation. This authority is in addition to any other civil or criminal penalty or injunctive relief authorized under this ordinance.

Sec. 16-22. Severability

If any section or section or sections of this ordinance is/are held to be invalid or unenforceable, all other sections shall nevertheless continue in full force and effect.

Sec. 16-23. Effective Date

This ordinance becomes effective on January 2, 2008.